

# Spotify Listening Analysis Project Documentation (2013–2024)

## Business Requirement & Goal

The core goal of this analysis is to provide crucial insights into user listening patterns using Spotify Albums Data. Understanding user engagement with albums, artists, and tracks over time is critical for both users and streaming platforms in today's digital music era.

## Project Development Steps

The project development follows a structured approach:

1. Requirement Gathering/ Business Requirements
  2. Data Walkthrough
  3. Data Connection
  4. Data Cleaning / Quality Check
  5. Data Modeling
  6. Data Processing
  7. DAX Calculations
  8. Dashboard Lay outing
  9. Charts Development and Formatting
  10. Dashboard / Report Development
  11. Insights Generation
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# 1. Spotify Overview Page Metrics

This page focuses on key performance indicators (KPIs) and high-level trends for albums, artists, and tracks.

## Key Performance Indicators (KPIs)

The dashboard presents the following aggregate metrics (2013-2024):

- Total Track Played: 150K
- Total Listening Hours: 5,341.54
- No of Albums: 7,907
- No of Artist: 4,112
- No of Tracks: 13,665
- Repeat Rate %: 90.88 %
- Shuffle Ratio %: 74.46 %
- Skip Ratio %: 5.25 %

## Analysis Sections

### A. Albums Analysis (Requirements:)

1. Albums by Year: Track how album listening trends change over months and years.
2. Albums Played (Weekday & Weekend): Identify the pattern of music listening on weekdays (38.26%) and weekends (61.74%).
3. Top 5 Albums: Identify the most played albums based on listening frequency.
4. Skip Ratio by Album: Analyze the percentage of times an album's tracks were skipped to identify less engaging content.

### B. Artists Analysis (Requirements:)

1. Artists by Year: Track how artist listening trends evolve across months and years.
2. Artists Played (Weekday & Weekend): Identify the pattern of music listening on weekdays (38.12%) and weekends (61.88%).
3. Top 5 Artists: Identify the most played artists based on listening frequency.
4. Skip Ratio by Artist: Analyze the percentage of times an artist's tracks were skipped to understand artist engagement.

### C. Tracks Analysis (Requirements:)

1. Tracks by Year: Monitor how track listening trends change across months and years.
2. Tracks Played (Weekday & Weekend): Identify the pattern of music listening on weekdays (37.15%) and weekends (62.85%).
3. Top 5 Tracks: Identify the most played tracks based on listening frequency.
4. Skip Ratio by Track: Analyze the skip rate for individual tracks, a key indicator of track performance.

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## 2. Listening Patterns Page

This page delves into when and how users are consuming music.

### Analysis Sections (Requirements:)

#### A. Listening Hours Analysis

1. Heat Map: Visualize peak listening times by identifying patterns across hours (0-23) and days (Mon-Sun) using color intensity.

#### B. Average Listening Time vs. Track Frequency

1. Scatter Plot with Quadrant Analysis: Categorize tracks based on their average listening time (minutes) and frequency (number of plays).  
(High Frequency & High Listening Time): Most engaging tracks.  
(Low Frequency & High Listening Time): Niche but impactful tracks.  
(High Frequency & Low Listening Time): Short & frequently played tracks.  
(Low Frequency & Low Listening Time): Less popular tracks.

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## 3. Details Grid View Page

This page serves as the repository for granular data and interactivity.

### Key Requirements (Requirements:)

1. Grid View with Essential Fields: The Grid must present critical data points such as Album Name, Artist Name, Track Name, and other relevant attributes for an intuitive and structured view.
2. Drill Through Functionality: Users must be able to drill through from the main reports to this grid view to explore the underlying data for detailed insights. The drilled-through data should be exportable to a CSV file based on user requirements.
3. Hierarchical Navigation: The Grid should support Drill Down, Drill Up, and Hierarchy for in-depth data exploration.